

# ENGINEERING EVALUATION

Shoreline Amphitheatre; PLANT #2561  
APPLICATION #7437

## BACKGROUND

The Shoreline Amphitheatre owns a small portion of the closed Vista Landfill (S-1) and operates a gas collection and control system for S-1.<sup>1</sup> Collected landfill gas is usually vented to the A-2 Landfill Gas Flare for control. A Carbon Adsorption System (A-1) is used as a back-up control device.

This facility is required to have a Title V permit because it is a designated facility. The District issued the initial Title V permit for this site on June 13, 2003, pursuant to Application # 2617.

This application concerns the A-2 Landfill Gas Flare, which was originally permitted as S-2 pursuant to Application # 32284. In accordance with current policy, the District established permit conditions for A-2 that limit NO<sub>x</sub> and CO emissions from this flare to the maximum permitted emission rates that were described in Application # 32284 and that were added to the Plant Cumulative Increase for this facility. From the Engineering Evaluation for Application # 32284, the maximum firing rate for A-2 was 3.6 MM BTU/hour and the maximum emission rates were 0.12 pounds of NO<sub>x</sub>/MM BTU and 0.08 pounds of CO/MM BTU. The pound/MM BTU emission rates are equivalent to exhaust concentrations of 30 ppmv of NO<sub>x</sub> and 33 ppmv of CO (both corrected to 15% oxygen on a dry basis).

Permit Condition # 876, Part 7 identifies the current CO emission limit for A-2, as shown below:

7. Carbon monoxide (CO) emissions from the A-2 Landfill Gas Flare shall not exceed 33 ppmv of CO, corrected to 15% oxygen, dry basis. (Basis: Cumulative Increase)

This CO limit is very low and the Shoreline Amphitheatre is concerned about their ability to comply with this limit at all times. Therefore, the Shoreline Amphitheatre submitted this application in order to request that the proposed CO limit be increased from 33 ppmv of CO at 15% O<sub>2</sub>, dry (the equivalent of 0.08 pounds CO / MM BTU) to 83 ppmv of CO at 15% O<sub>2</sub>, dry (the equivalent of 0.20 pounds CO / MM BTU).

## EMISSIONS

At the new proposed CO limit, maximum CO emissions from A-2 will be:

$$\begin{aligned}(3.63 \text{ MM BTU/hour}) \times (0.20 \text{ pounds CO/MM BTU}) \times (24 \text{ hours/day}) &= 17.42 \text{ pounds/day of CO} \\ (17.42 \text{ pounds CO/day}) \times (365 \text{ days/year}) / (2000 \text{ pounds/ton}) &= 3.180 \text{ tons/year of CO}\end{aligned}$$

Baseline CO emissions from A-2 were:

$$\begin{aligned}(3.63 \text{ MM BTU/hour}) \times (0.08 \text{ pounds CO/MM BTU}) \times (24 \text{ hours/day}) &= 6.97 \text{ pounds/day of CO} \\ (6.97 \text{ pounds CO/day}) \times (365 \text{ days/year}) / (2000 \text{ pounds/ton}) &= 1.272 \text{ tons/year of CO}\end{aligned}$$

CO emission increases are:

$$(3.180 \text{ tons/year}) - (1.272 \text{ tons/year}) = 1.908 \text{ tons/year of CO}$$

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<sup>1</sup> The main part of the Vista Landfill is owned by the City of Mountain View, Plant # 2740.

The only other source emitting CO at this site is the S-3 Diesel Engine for Emergency Standby Generator, which has a maximum potential emission rate of 0.808 tons/year of CO, based on 500 hours/year of operation. Maximum potential CO emissions from all existing equipment at the current permitted emission levels are 2.08 tons/year of CO. After including the new proposed CO emission limit for A-2, the maximum potential emissions for this facility will be 3.988 tons/year of CO.

## PLANT CUMULATIVE INCREASE

Table 2. Inventory of Plant Cumulative Emission Increases (post 4/5/91)

Tons/Year	Current Total	Emission Increases	On-Site Reductions	Offsets Required	New Total
NO <sub>x</sub>	0.000				0.000
CO	0.000	1.908	none	none	1.908
POC	0.000				0.000
PM <sub>10</sub>	0.000				0.000
SO <sub>2</sub>	0.000				0.000

## STATEMENT OF COMPLIANCE

### Regulation 2, Rule 1

Permit applications for abatement equipment are typically categorically exempt from CEQA review, pursuant to with Regulation 2-1-312.2. As indicated on the applicant's Appendix H Environmental Information Form, this project does not involve any physical modifications and there is no possibility that this project will have any adverse impacts on the environment, because CO emissions are low. Therefore, the District concludes that this project will satisfy all the requirements of Regulation 2-1-312.2 and no further CEQA review is required.

The project is over 1000 feet from the nearest school and is therefore not subject to the public notification requirements of Regulation 2-1-412.

### Regulation 2, Rule 2

The maximum permitted emissions from the A-2 Landfill Gas Flare will exceed 10 pounds/day of CO. However, secondary emissions from abatement equipment are exempt from the Regulation 2-2-301 BACT requirements if the device is required to meet BACT or BARCT for another pollutant. The A-2 Landfill Gas Flare is required by Regulation 8, Rule 34 and meets BARCT for control of POC emissions from landfills. Therefore, CO emission increases at this flare are exempt from BACT (Regulation 2-2-301) pursuant to Regulation 2-2-112. Instead, the CO emissions from A-2 must meet a RACT level of control. The District has determined that a CO emission rate of 0.20 pounds/MM BTU is RACT for landfill gas flares. Therefore, the proposed permit condition change will comply with Regulation 2-2-112.

There are no offset requirements for CO emission increases (Sections 302 and 303 do not apply).

The PSD Requirements (Section 304-306) do not apply because the sources at this facility are not in any of the 28 PSD source categories for which a PSD Major Facility is defined as a facility emitting more than 100 tons/year of a regulated air pollutant. Therefore, this facility will only be a PSD Major Facility if maximum potential emissions will exceed 250 tons/year of a regulated air pollutant. Since maximum potential CO emissions will be less than 250 tons/year, PSD does not apply.

Toxic NSR

This application will not result in any toxic emission increases; therefore the Toxics NSR Program does not apply.

Regulation 2, Rule 6

This facility is a designated facility that is subject to the Title V permitting requirements of Regulation 2, Rule 6. The initial Title V permit was issued on June 13, 2003.

The CO limit change that is the subject of this application is not considered a significant revision of the MFR Permit, because it is not a major NSR or PSD modification (CO emission increases are less than 100 tons/year). Therefore, this permit condition revision will be processed in accordance with the minor permit modification procedures cited in Regulation 2-6-414.

Other District Regulations

There are no other District Regulations that apply to CO emissions from a landfill gas flare.

Federal Regulations

PSD, NSPS, and NESHAPS do not apply to CO emissions from a landfill gas flare.

**PERMIT CONDITIONS**

The following change will be made to the permit conditions for the A-2 Landfill Gas Flare.

**Condition # 876**

**FOR: S-1, LANDFILL AND GAS COLLECTION SYSTEM;**

**FOR: A-1, CARBON ADSORPTION SYSTEM; AND**

**FOR: A-2, LANDFILL GAS FLARE;**

7. Carbon monoxide (CO) emissions from the A-2 Landfill Gas Flare shall not exceed ~~33~~83 ppmv of CO, corrected to 15% oxygen, dry basis. (Basis: Cumulative Increase)

**RECOMMENDATION**

Issue a Change of Permit Conditions for the following device:

**A-2 Landfill Gas Flare, Sur-Lite, Model 400, 3.63 MM BTU/hour:**

Increase exhaust concentration limit in Condition # 876, Part 7, from 33 ppmv of CO at 15% O<sub>2</sub>, dry basis, to 83 ppmv of CO at 15% O<sub>2</sub>, dry basis.

By: Carol S. Allen  
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July 22, 2003  
Date